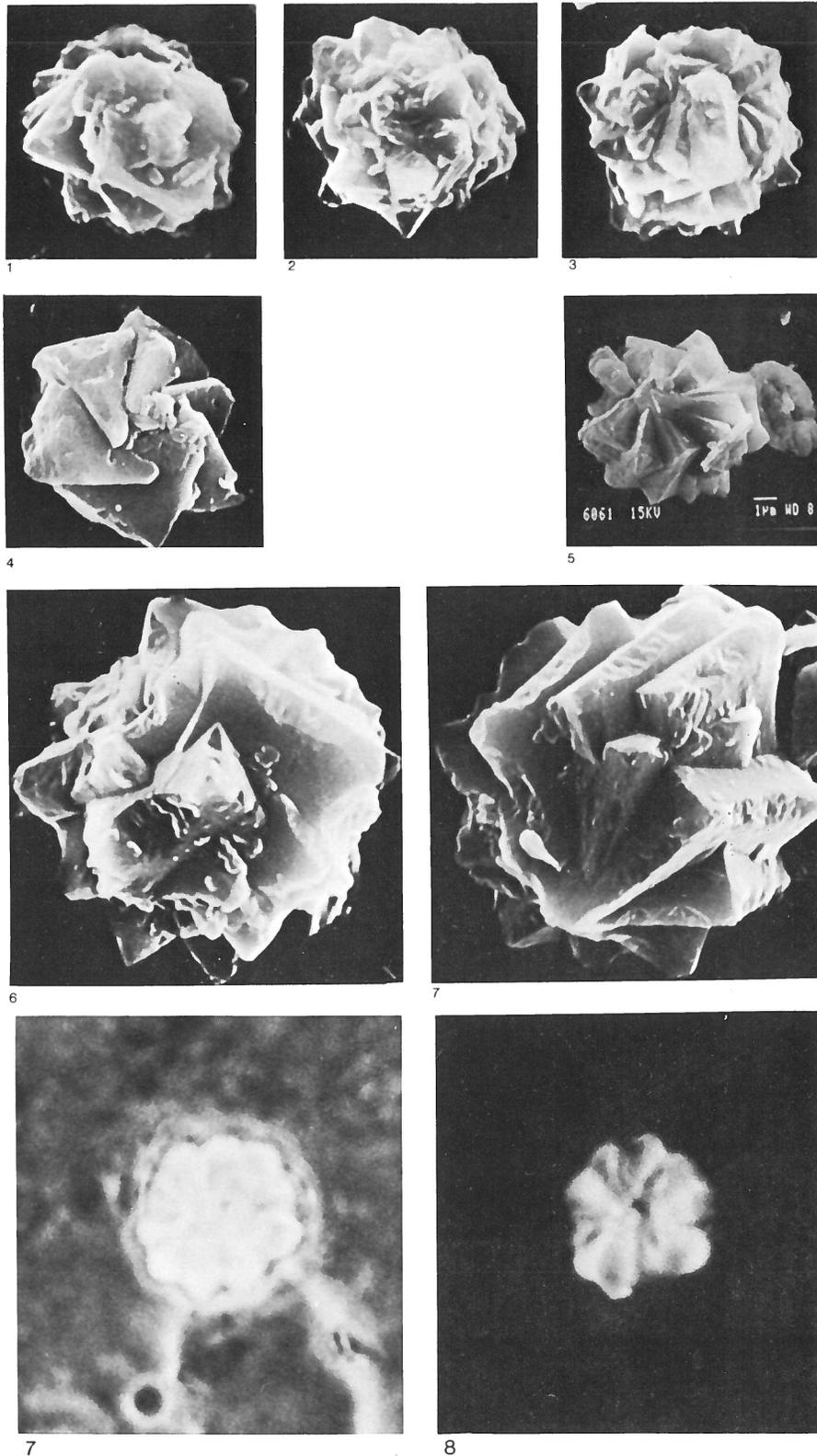


Rucinolithus terebrodentarius APPLIGATE, BRALOWER, COVINGTON & WISE, 1987



Figs. 1-4, 5-7, 7*, 8 - *Rucinolithus terebrodentarius* n.sp.
1-4) paratypes, Sample 603B-44-1, 113 cm, (1,2) $\times 8500$; (3,4) $\times 8000$; 5) paratype, $\times 5000$,
Sample 603B-44-1, 60 cm; 6-7) Sample 603B-44-1, 113 cm, (6) paratype, axial view, $\times 13000$;
(7) holotype, $\times 11000$; 7*,8) $\times 3400$, Sample 603B,54,CC, (7*) Ph; (8) Pol.

Description:

Diagnosis: A globular to oblate spheroid composed of about 10 blocky, euhedral interpenetrating elements (counted along the periphery) that may or may not appear to rotate or spiral about a polar axis.

Description: This globular object consists of interpenetrating elements that may rotate or spiral (usually counterclockwise) about a central axis. A terminal element may project as a knob at a pole (Plate 18, Figs. 5-7), so that when viewed axially, the object appears as a rosette in plan view as is characteristic of the genus (Stover, 1966, p. 154). Specimens exhibit about 10 (Plate 18, Fig. 7) elements per whorl and one (Plate 18, Fig. 7) to two (or more?) (see Plate 19, fig. 3) whorls per individual. There is variation in the regularity by which the elements are inserted, so that a definite rotation or spiral about an axis cannot always be demonstrated on single micrographs of a specimen.

Size: 5 to 8 μm ; holotype, 7.7 μm .

Remarks:

This compact, chunky form resembles the burr of a turn-of-the-century hand-held dental drill, hence the trivial name (from the Latin, meaning « tooth borer »). The insertion of the elements, however, is more radial in some specimens. The form is apparently dissolution resistant in that its abundance does seem to vary significantly with lithology or the prevalence of turbidites in the section. It is usually abundant, however, in black shale samples from Core 44.

Differentiation: The taxon was described after we completed our range chart (Table 1), therefore it is not distinguished there from *Assipetra infracretacea* (THIERSTEIN) ROTH, another compact form that consists of « two sets of flat crystal plates, one set piercing the other at an obtuse angle » (Thierstein, 1973, p. 46). *Rucinolithus terebrodentarius* n. sp. is more globular, has more numerous and angular projecting elements, and often displays a regular, spiral construction not observed in *A. infracretacea*, the outline of which is subrectangular to suboval (Thierstein, 1973).

In the light microscope, *R. terebrodentarius* is highly birefringent, and can therefore be distinguished readily from *Hayesites irregularis*, which exhibits a first-order gray birefringence. Specimens of *H. irregularis* reported from the mid-to upper Barremian by Roth (1983, fig. 6) may be this new species.

Type level:

DSDP Sample 603B-44-1, 113 cm (Aptian).

Occurrence: Rare to abundant in the Barremian-lower Aptian, Hole 603B, increasing in numbers upsection.

Type locality:

DSDP Sample 603B-44-1, 113 cm.

Depository:

Not given.

Holotype: Plate 18, Figure 7.

Paratypes: Plates 17, Figures 7-8; Plate 18, Figures 5, 6; Plate 19, figs. 1-4.

Author:

Applegate J.L., Bralower T.J., Covington J.M. & Wise S.W., 1987, p. 632; pl. 17, figs. 7-8; pl. 18, figs. 5-7; pl. 19, figs. 1-4.

Reference:

Calcareous nannofossil biostratigraphy of a Lower Cretaceous deep-sea fan complex: Deep Sea Drilling Project Leg 93 site 603, lower continental rise off Cape Hatteras. Init. Repts. DSDP, vol. 93, pp. 617-660, 23 pls., 5 text-figs.